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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/995,880

11/28/2001

Thomas A. Koes

50884

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09/03/2003

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EXAMINER

LEE, SIN J

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant(s)

09/995,880

Applicant(s)

KOES, THOMAS A.

Examiner

Sin J Lee

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1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 15, 16 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Objections*

1. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. *Amine* carboxylic acids listed in present claim 4 fails to further limit alkanecarboxylic acids or arylcarboxylic acids claimed in present claim 3.

2. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Formic acid ( $\text{H-COOH}$ ) and oxalic acid ( $\text{HO-C(=O)-C(=O)-OH}$ ) claimed in present claim 5 do not belong to any of those acids listed in present claim 4. Benzene tricarboxylic acid claimed in present claim 5 fails to further limit aryldicarboxylic acids or *substituted* arylcarboxylic acids listed in present claim 4. Ethylenediamine tetraacetic acid claimed in present claim 5 fails to further limit alkanecarboxylic acids or arylcarboxylic acids which are listed in present claim 3.

3. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

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required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. *Amine* carboxylic acids listed in present claim 15 fails to further limit alkanecarboxylic acids or arylcarboxylic acids claimed in present claim 14.

3. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Formic acid ( $\text{H-COOH}$ ) and oxalic acid ( $\text{HO-C(=O)-C(=O)-OH}$ ) claimed in present claim 16 do not belong to any of those acids listed in present claim 15. Benzene tricarboxylic acid claimed in present claim 16 fails to further limit arylcarboxylic acids or *substituted* arylcarboxylic acids listed in present claim 15. Ethylenediamine tetraacetic acid claimed in present claim 16 fails to further limit alkanecarboxylic acids or arylcarboxylic acids which are listed in present claim 14.

4. Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. *Amine* carboxylic acids listed in present claim 20 fails to further limit alkanecarboxylic acids or arylcarboxylic acids claimed in present claim 19.

***Claim Rejections - 35 USC § 112***

5. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "said photoimageable composition" in line 2. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examining the claim on the merit, the Examiner assumed that applicants meant to say "said photoresist composition"

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Barr et al (6,004,725).

In Example (see the table in col.5 and col.1, lines 8-11), Barr teaches a negative acting photoimageable composition useful for manufacturing *printed circuit boards*, comprising a binder having an *acid number of 239* and another binder having an *acid number of 149*, 9-phenyl acridine (*present photoactive component of claim 7*), and 0.06 wt% of o-phthalic acid (which chemical formula is  $C_6H_4-1,2-(CO_2H)_2$ , which is the *present organic acid of claims 5 and 16*, *present arylcarboxylic acid of claims 3, 14, and*

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19, and present aryldicarboxylic acid of claims 4, 15, and 20). Therefore, the prior art teaches present inventions of claims 1-17 (since Barr teaches present organic acid of claims 5 and 16, it is the Examiner's position that Barr's phthalic acid would inherently be non-polymerizable with the binder as presently recited in claims 1 and 12. Also, since Barr teaches present photoresist composition including present organic acid, it is the Examiner's position that Barr's composition including the phthalic acid would enhance the removal of it from the substrate as presently recited in claim 12. Also, since Barr's binders have the acid numbers of 239 and 149, and since these acid numbers fall within the present range of 50-250 in claim 9, Barr's binders would inherently comprise sufficient acid functionality to render Barr's composition developable in alkaline aqueous solution as presently recited in claim 8).

With respect to present claims 18-20, after Barr's composition is coated onto a polyester film and dried, the coated mixture is then laminated onto a clad copper composite (present printed wiring board substrate). The laminated material is then exposed and then developed. See col.5, lines 47-65. Therefore, the prior art teaches present inventions of claims 18-20.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is (703) 305-0504. The examiner can normally be reached on Monday-Friday from 8:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Janet Baxter, can be reached on (703) 308-2303. The fax phone

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number for the organization where this application or proceeding is assigned is (703)

872-9311 for after final responses or (703) 872-9310 for before final responses.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.

*S. Lee*

S. Lee  
8/4/03

  
JANET BAXTER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700